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THE Agricultural Situation

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✕ Postwar Shifts Now Under Way Involve Millions of Acres

THE LONG-EXPECTED adjustments from the wartime pattern of agricultural production are on in earnest in 1950.

The announced allotment programs for the 1950 season call for about 12 million fewer acres in wheat than were planted in 1949; about 11 million fewer acres in corn in the commercial areas; and considerably fewer acres of cotton. Other war-expanded crops such as rice, peanuts, flaxseed, and potatoes have been or are faced with reductions.

Altogether these reductions total some 30 million acres and may involve millions more during the next few years. These "surplus" acres represent a major unbalance in our agricultural plant. What to do with them is one of the major problems facing farmers.

Little Change in Acreage

The major developments in agriculture during the past decade or so reveal how the unbalance in agriculture developed and provides a setting against which the problem can be considered. We have about the same total acreage in crops as before the war. The land that was plowed up during the war and after was about equal to the acreage abandoned. We have fewer people working and living on farms. But we have many more tractors and other farm machinery, use much more fertilizer, have higher producing va-

rieties and strains of crops and animals, feed livestock better, control insects and diseases better, and in general do a more effective job of farming. One significant result has been higher yields of crops per acre and greater production of livestock and products per breeding unit. This means that fewer acres and fewer livestock are needed to produce as much food as prewar.

War a Cause

A part of our unbalance in agriculture is due to the war and its after effects. Wheat acreage, for example, expanded sharply after the war to fill the demand for wheat for export for relief feeding. Our exports of wheat have averaged over 400 million bushels yearly since the war ended, compared with less than 100 million bushels in the late 1930's. The change in acreages and production of some of our important agricultural commodities since 1937-41 are shown in the accompanying table. Although acreages of corn and potatoes in 1949 were lower than prewar, the acreage of cotton was about the same, production of each was much higher. Wheat acreage increased about as much as production. And most important, production of all major commodities was well above prewar.

These increases in production were stimulated by increase in demand and prices for farm products resulting mainly from three factors:

(1) *Higher consumption of food per person* because of high employment and national income. Consumption of all food per person in 1946 was 19 percent above the 1935-39 average. But in 1949 food consumption had declined to about 11 percent above prewar. More nonfood products have become available and are competing for the consumer's dollar. Food prices are considerably above 1946 levels. Unemployment has increased some.

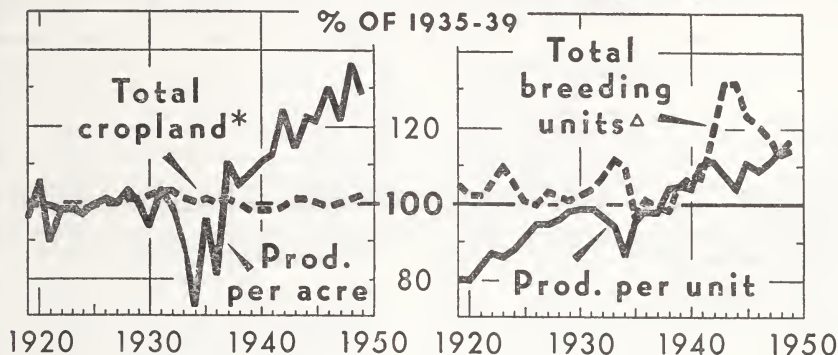
(2) *Our rapidly expanding popula-*

Problems of adjustment will, in one way or another, affect practically every farmer in the country in coming years. The problems, their background and some of the solutions are discussed in this and the next 3 articles.

FARM PRODUCTION PER ACRE AND PER ANIMAL UNIT

CROPS

LIVESTOCK



* SUM OF THE ESTIMATED ACREAGE FROM WHICH ONE OR MORE CROPS WERE HARVESTED PLUS ACREAGE OF CROP FAILURE AND SUMMER FALLOW
 Δ INCLUDES ALL BREEDING LIVESTOCK EXCEPT HORSES, AND ALL LIVESTOCK PRODUCTION EXCEPT FARM-PRODUCED POWER OF HORSES AND MULES

U. S. DEPARTMENT OF AGRICULTURE

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tion: There are now about 19 million more people in the United States than 10 years ago. This means a much larger market than before. But the combination of an increasing population and the changes in consumption per person of particular foods have affected commodities differently. For instance, per capita consumption of wheat and potatoes has declined enough since prewar to about offset the effects of increased population. On the other hand, per capita consumption of fluid milk, eggs, meat and vegetables are definitely higher, resulting in a 20 to 40 percent increase in demand for most of these items.

(3) *Strong demands for food for export* because of war-created dislocations and demands for relief feeding: Heavy exports of some products such as wheat, cotton and rice since the war have been extremely important in maintaining prices and the need for larger than prewar acreages of some crops. By 1950, though, agriculture in most European countries had largely recovered from war damage and exports of farm food products are expected to decline from now on. The problem has been intensified because of the difficulties most countries have in

obtaining dollars. We have not imported nearly enough products to provide dollars with which other countries can pay for goods bought from us. Much of our exports have been financed by loans and gifts from the United States, which are also declining.

These trends indicate that practically all farmers will need to be concerned with adjustments toward a better balanced agriculture. For the farmer with "surplus" acres, however, the adjustment problem is both immediate and difficult. If he reduces his acreage of wheat, cotton, corn or some other crop, not only the land but some labor and equipment will be available for other purposes. If he lets the land lie idle, total output of the farm will be reduced. Overhead costs will not show a similar reduction since much of the costs are fixed and do not change much as production increases or decreases.

Needless to say, farmers will be looking for the best alternative uses for land released as the result of acreage allotments in order to spread overhead costs over as much product as possible. Some farms have practically no alternatives other than letting the land lie idle. From farm to farm and region to region, alternatives vary

Changes in Acreage and Production

Item	Acreage			Production			
	1937-41 average	1949	Change	Unit	1937-41 average	1949	Change
	<i>Thou- sand</i>	<i>Thou- sand</i>	<i>Per- cent</i>		<i>Million</i>	<i>Mil- lion</i>	<i>Per- cent</i>
Wheat.....	69,425	84,931	+22	Bushel.....	858.0	1,146	+34
Corn.....	91,763	87,910	-4	do.....	2,576.0	3,378	+31
Oats.....	39,715	44,525	+12	do.....	1,130.0	1,323	+17
Cotton.....	26,358	27,359	+3	Bales.....	13.2	16	+21
Soybeans ¹	8,754	11,409	+30	Bushel.....	77.0	222	+188
Potatoes.....	2,913	1,924	-34	do.....	361.0	402	+13
Hay, all tame ^{2 3}	46,126	51,661	+12	Tons.....	68.0	81	+19
Hogs (live weight).....				100 pounds.....	157.0	⁴ 188	+20
Cattle and calves (live weight).....				do.....	151.0	⁴ 184	+22
Milk.....				do.....	1,079.0	1,184	+10
Eggs.....				Dozen.....	3,256.0	4,686	+44

¹ Soybeans for beans.

² Excludes soybeans, cowpeas, peanuts, and small grains cut for hay.

³ Harvested acreage, all others are planted acreages, except cotton, which is acreage under cultivation July 1.

⁴ For 1948, not yet available for 1949.

greatly. The situation also is different for the farmer free of debt than for the farmer heavily in debt. In the first case, production can be slackened and more attention given to building up soil resources. In the other, maximum production must be sought.

These changes in production and consumption trends point to the general direction adjustments on most farms must take. The amount of meat, milk, poultry products, fruits, and vegetables taken by consumers changes more with income and prices than in the case of the major staple crops. For the bulk of the 30 to 35 million "surplus" acres in prospect, the answer seems to be largely more hay and pasture to produce milk and beef.

Conversion of 30 to 35 million acres to hay and pasture raises immediately the question of what effect such a shift would have on prices of milk and beef. We know that consumers will buy more of these products when they have the income and when prices are right. Whether farmers can move in this direction will depend considerably on whether we maintain high levels of employment and incomes.

If per capita consumption of meats,

especially beef, could be increased by only 10 pounds from the 145 pounds consumed in 1949 back to the 155 pounds consumed in 1947, and if fluid milk consumption could be increased from the 380 pounds per capita of 1949 to the 432 pounds actually consumed in 1945 we would have a ready market for the forage from about 35 million acres. These estimates are on the basis of present population. If it is assumed that 5 or 6 years will be required for such a shift, population will have increased 8 to 10 million.

The major unknowns seem to be whether consumer incomes will remain high, how much of a decline in prices of milk and meat would be necessary to induce increased consumption, and what progress farmers can make in reducing costs so as to make increased production profitable even at lower prices to consumers. Ways and means of reducing costs by better farm planning, through farm reorganization, or through adoption of improved practices, techniques, and machinery will be particularly important.

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Hog, Corn Trends a Warning

CORN BELT farmers and those in other regions who emphasize the production of feed grains have some big adjustments to make. During the war they put about 11 million more acres into intertilled crops—chiefly corn and soybeans. Most of this land has been in grass. The growing stocks of corn and lower prices for pork and lard, especially lard, resulting from the slackening of wartime demand are a warning to these farmers that they now need a better balance among corn, soybeans, hay, and pasture.

Last December, an allotment of 46,247,000 acres of corn in 1950 was announced for the "commercial corn-producing area," which reaches from eastern Ohio to western Nebraska, and from mid-Minnesota to southern Missouri and Kentucky. Some eastern counties, chiefly in Pennsylvania and Maryland, are also included. The allotment is about 20 percent less than the acreage planted in the area in 1949.

More Grass This Year

Many farmers who reduce their corn acreage this year will correspondingly increase their acreages of oats, barley, and soybeans—crops for which there are no allotments in 1950. They cannot readily do otherwise except where they can hold over old seedings of grass and legumes which, under the rotation, ordinarily would go into corn. Many more farmers will increase their acreage of grass and legume seedings this spring because much of the land not needed for corn should go back to grass as soon as possible to retard erosion and build up the soil.

Beyond 1950, adjustments in the Corn Belt will depend on the long-run demand for meat and milk. The relatively high prices consumers have paid for meat since 1947 when supplies were more abundant than at any time since 1908 demonstrates how demand for meat expands when high incomes are widely distributed through nearly full employment. If income and employ-

ment stay high, demand for meat by our growing population probably will increase.

Fewer Workstock, More Meat

How much more beef, lamb, and mutton farmers can turn out depends chiefly upon the increase in production of roughage and grazing. During the last 30 years, the peaks in the cycle of total number of roughage-consuming animal units—including cattle, sheep, and workstock—have not changed much. Chiefly because of the decline in the number of horses and mules, however, enough hay and pasture has been released to feed the equivalent of about 23 million additional cattle and calves. The number of workstock is now so low that further declines will not release much more hay and pasture. Any further increases mean more production of hay and pasture which will come from land taken out of other crops.

Marketing more hay and pasture through livestock may be part of the solution to some of the important problems of adjustment in the Corn Belt. Many farmers in this area have demonstrated that they can profitably increase the acreage of hay and pasture on their farms. They use the best adapted seeding mixtures of legumes and grasses, apply lime and fertilizer where needed, use harvesting methods which conserve the quality of hay and hold down the costs of getting it into storage, and use proper systems of feeding their hay and pasture.

The systems for using more roughage will vary with the type and size of farm. Where limited quantities of good rotation pasture and a considerable quantity of corn are available for feeding both hogs and cattle, fattening of the better grades of cattle on grass and a limited ration of concentrates should offer a profitable opportunity. This is already being done by some farmers who follow essentially a cash grain system.

Because of the general trend of cattle, prices probably will be downward for some time, profits are more likely to come from economy in feeding rather than from wide price margins. Steers fed on pasture eat less corn and protein supplement per head than those fed in drylot. The value of other feeds saved by an acre of pasture in feeding experimental lots of steers at Clarinda, Iowa, for example, was about \$20 per acre at present prices for corn and protein supplement.

The Baby Beef Herd

Farmers in livestock areas who need to shift more acres from corn to grass should not find it too difficult to expand their beef cattle raising and fattening enterprises. Where conditions are favorable, particularly on farms of 240 acres or more, the system of beef cattle production generally will be raising and fattening of baby beefs. A baby-beef herd provides maximum use of a combination of concentrates, roughages, and pasture during the summer and can be maintained during the winter partly on unsalable rough feeds, such as cornstalks and straw. The fattening calves use the surplus corn and other grains.

On many other farms, especially smaller ones, the choice will be the milk-and-beef system which combines the merits of beef cattle production for utilizing large quantities of feeds and pasture with those of dairying for labor utilization. This would be particularly suitable on the farm that does not have enough pasture for carrying a breeding herd large enough to provide the number of baby beef calves or feeder yearlings required to use the feed grain, and that has a relatively large supply of family labor. On such farms a milk-and-beef herd frequently can use the harvested feed crops and the extra labor supply and still keep the size of the herd within the limits of the pasture available. On the other hand, if the supply of both pasture and labor is small relative to the quantity of feed grains and roughages, a small breeding herd provides use for the pasture, and the feeders raised can be supplemented with purchased feeders.

Farmers adopting either system

should choose the type of cows carefully. With the baby-beef system, it is important that cows produce calves of the beef type that will feed out satisfactorily. Cows for a milk-and-beef system should be first of all good milkers but they also should produce acceptable feeder calves.

Corn Belt farms that are not so well adapted to feed grains generally are smaller than farms on which feed grains are grown extensively. Since more attention can be given to livestock, the dairy herd may be the best system. A dairy herd uses much more roughage compared with grain than a beef cattle raising and fattening enterprise. It also provides productive employment for a relatively large amount of labor per unit of feed and equipment used, and the labor is fairly evenly distributed throughout the year.

Production of milk is not large enough for our food needs. Dairymen have better chances than most other producers for widening market outlets if dairy commodities can be produced at lower costs. Low costs come from good practices. It will pay many dairymen to use more grass and legumes to get more cheap feed and to rebuild the soil. Better methods of growing and harvesting forage crops can boost yields and lower costs, and better rations can be supplied by good quality hay and pasture.

Bigger Volume of Business

The greater returns that farmers are getting on high-forage farms generally are due to the effect of grass and legumes have in increasing yields of their grain crops and to the larger volume of business they have developed by feeding more forage and grain to roughage-consuming livestock.

Changing over to a system of farming with more grass and more livestock, however, generally requires more work, new investments, a greater variety of skills in management, and involves greater risks. Although the net farm returns are increased, the return for each hour of labor may not be so large as before the change.

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Newer Pastures Show Promise

COTTON, the South's major cash crop, is again in surplus. The carry-over next August 1 probably will be about 7½ million bales, about 3 times the low point of 1946.

Other significant changes during the last 10 years indicate the adjustment problems facing the South. The acreage of peanuts picked and threshed in 1949 was 33 percent larger than in 1937-41; the acreage of soybeans for beans was up nearly 3 times; the acreage of rice, and the wheat acreage in Texas and Oklahoma, were up 50 percent. The acreage of corn has been reduced materially, mainly because of a decrease of nearly one-third in the number of workstock. Cattle numbers have increased considerably.

Total Acreage Down

Despite these increases, the total acreage of 52 major harvested crops in the South, except Texas and Oklahoma, was about 8½ million less in 1949 than in 1937-41. Some of this land is now in pasture but most of it probably is idle or is reverting to trees. In Texas and Oklahoma, the acreage of the 52 crops in 1949 was about 3½ million greater than in 1937-41. Much of this increase was in wheat.

Acreage allotments for cotton, peanuts, tobacco, rice, wheat—and in a few areas, for corn—will be in effect in 1950. They call for a reduction of nearly 9 million acres below 1949 planted acreages. Marketing quotas are also in effect for cotton, peanuts, and tobacco.

This year, southern farmers probably will increase their acreages of corn, grain sorghum, soybeans, and oats, which will not require much additional equipment or skills. But it is doubtful that farmers can plan on unrestricted acreage and continued price supports on these crops later on. This raises the question of what other alternatives are available.

In areas where corn or grain sorghum yields are high, or can be in-

creased, more hogs can be raised. In some areas in the Southeast, peanut acreage might be maintained by hogging off those in excess of allotments. Larger acreages of crops to be turned under for soil improvement is an opportunity on some farms. Increases in output of small fruits, vegetables, and poultry to meet the local demand are possibilities on other farms, particularly the smaller ones.

However, such shifts probably would use only a small part of the land and other resources released from major cash crops. In general, the best alternative appears to be an increase in pasture and roughage-consuming animals.

Little Gain in Pasture

Although many southern farmers already have incorporated livestock in their farming systems, the increase in the acreage of improved pasture has not been large in most areas. In some areas, pasture will, and perhaps should, remain an extensive enterprise yielding a low return per acre. However, new pasture grasses and new cultural and production practices for both hay and pasture appear to make development of pastures with a high carrying capacity more feasible than in the past, particularly in the humid areas. This means that even on smaller farms, forage and grass may provide a profitable alternative.

This is not to say that a shift toward pasture and livestock is the solution for all farms in all parts of the South. But over-all, pasture appears to be one of the best alternatives available. Furthermore, on many farms this shift is needed for soil conservation, and in most areas, it can be more profitable than letting land lie idle. Further improvement in the quality of livestock and in feeding and handling practices also would be needed.

Most of the newer type pasture grass seeds are in short supply and priced relatively high. Their production for

sale as well as for increased seeding on the farm where grown might prove to be profitable on many farms for several years.

The low average income of southern farmers compared with those in most other major areas has been largely due to low physical production per worker. This, in turn, is due to the large amount of hand work required for the South's major cash crops. Most of the hand labor requirements are seasonal in nature. To some extent, this has prevented southern farmers from adopting other enterprises which would conflict with the labor requirements of the major crops. The fact that these peak labor operations have not been mechanized has tended to slow down mechanization of other operations on the cash crops as well as on other enterprises.

Many More Machines

Nevertheless, the shift to mechanization now appears to be in full swing in much of the South. In 1949, there were nearly three times as many tractors on southern farms as in 1940. The mechanical cotton picker, the stripper, the rotary hoe, the flame cultivator, the rice combine and many other labor-saving devices give promise of substantially increasing production per farm worker.

Some of the developments will come slowly—more slowly in some areas than in others. The rate of adoption will depend not only on the price and on improvements in mechanical efficiency of machines, but also on the availability of capital or credit and on the ability of farm workers to find other jobs.

Because of the heavy investment required, some of the newer machines must perform a considerable volume of work if operation costs are to be kept low. Consequently, many are not economical on small farms if the operator uses them only on his own crops. Many operators might find a profitable source of supplemental income by doing work on a custom basis for other farmers. Joint ownership also might be a solution.

As the South moves toward a more mechanized agriculture and toward

pasture and livestock, different managerial skills will be needed. The ability to handle machinery, and livestock, as well as the ability to determine the most profitable methods and practices all become more important. More management responsibility must be assumed by the operator.

Increased use of machinery and a shift toward pasture and livestock will mean that many small farms would need to be larger. Consequently, fewer people would be needed in southern agriculture. This change already is taking place. In 1949, the farm population in the South was a tenth smaller than in 1937-41, while the total population had increased about 10 percent. If we have an expanding national and world economy, there will be great possibilities for industrial expansion in the South. This would provide jobs in industry for many farm people and part-time off-farm work for many others. In fact, many operators of small farms are now working part-time in industry. This may be one of the best opportunities for adjustment for operators on small farms.

Woodlands a Possibility

Another important resource on most farms in many parts of the South that can be used to greater advantage in many cases is woodlands. They vary from a small woodlot which provides fuel for home use to woodland operations which are an important source of cash income. Although farm woodlands have been exploited, there is a real opportunity to increase the returns by improved management. Because of its steep topography or poor drainage or low fertility, some of the land released from crops may not be well adapted to pasture and should be devoted to forestry.

In appraising possibilities for his woodland, the individual farmer must think of future incomes as well as the dollar returns for the next year. Opportunities also exist for the profitable use of the farmer's labor and equipment in harvesting and marketing woodland products.

E. Lee Langsford

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Major Land Use Problem Ahead

REDUCTIONS in wheat acreage in prospect pose one of the greatest land use problems ever faced by western farmers.

Acreage allotments for the nation's 1950 wheat crop call for the seeding of about 73 million acres, nearly 12 million acres less than the record seedings of 1949. If requirements for domestic use, export and stocks during the next 4 or 5 years average about 1 billion bushels annually, as now appears likely, an average annual seeded acreage of some 63 million acres would be adequate under average weather conditions. This would mean nearly 22 million fewer acres than was planted in 1949.

The brunt of such a reduction would come in the major wheat areas of the Great Plains and the Pacific Northwest. Of the nearly 32 million acres increase in wheat seedings since 1942, about 85 percent was in the 10 Great Plains and 3 Pacific Northwest States. Four-fifths of our 1949 wheat acreage was seeded in these 13 States. If our wheat acreage is reduced to 63 million, 15 to 17 million acres would be released.

Few Alternatives

Fewer alternatives are open to farmers in western wheat areas than for those in other regions. Some of this excess acreage is best suited to wheat production. Over most of the area, limited rainfall generally restricts use of the land for other purposes. The equipment which the farmers already have is adapted for wheat raising. However, there is little prospect for an affective demand over the next few years for all the wheat western farmers would like to produce and most of them will be seeking their next best alternative.

For the individual operator, summer fallow is one of the most economic and the easiest adjustments in the areas where it is adapted. During recent years when the weather was favorable and wheat prices relatively high, many

farmers have reduced their fallow acreage below the point which would give them a maximum production over a period of years. Some never have had an optimum fallow acreage. And some, particularly those in the lighter rainfall areas of the Northern Plains where soils have a high water-holding capacity, can profitably shift part of their acreage to a double summer fallow basis. All these farmers can put more land in summer fallow with little loss of income.

More Feed Grain in 1950

But some farmers have had enough fallow acreage and others are in areas not adapted to fallow. Furthermore, while increased summer fallow will reduce the acreage, it is not likely to reduce production significantly. Since smaller output is the problem rather than just acreage reduction, many western wheat farmers will have to turn to other alternatives.

Some farmers will produce more feed grains in 1950—primarily grain sorghums in the Southern Plains and barley in the Northern Plains and Pacific Northwest. This will permit a continued efficient use of their production resources without a drastic sacrifice of incomes. But a surplus of feed grains might result in allotment programs on feed grains in the years ahead. In this case, still other alternatives would have to be found.

Grass is one of the most frequently suggested alternatives and in many cases it probably is the best. Some 5 or 6 million acres of grassland have been broken in the Great Plains in recent years. Substantial acreages also were broken in the Northwest. Some of this new land is as suitable for cropping as is most of that which already had been broken. However, much of it is in areas where rainfall normally is not adequate for wheat or the land is thin, relatively unproductive, and subject to erosion when not protected by a perma-

ment cover. The best long-time use for such land is grass, but the development of grazing on most western wheat farms will require careful planning.

Grass Means Livestock

Efficient use of grass usually means a cattle or sheep enterprise. Generally, the acreage in grass must be relatively large for a grazing enterprise, it must be supplemented with other feeds, and stock water must be available. Some western wheat farms already have a cattle enterprise with fences, livestock equipment, buildings, stock water, and supplementary feeds. On these farms, seeding excess cropland to grass and increasing the livestock herd can be done without a significant sacrifice in income. This also is feasible on larger wheat farms which do not have a grazing enterprise, but have enough excess acres for grazing and have, or can develop, a water supply. A substantial investment in fencing, buildings, and in water development might be necessary.

Farmers who already have a substantial livestock enterprise probably will do best to expand it as they increase their grass acreage. Those who do not have a livestock enterprise have several choices. In most areas, they can choose either cattle or sheep and select the type of animal and the method of production which best fits their own situation.

Permanent cow herds or ewe flocks involve less price risk and generally are more stable than enterprises which involve the purchase of feeder calves or lambs. In the western areas where crop yields fluctuate widely, however, they require larger roughage reserves. The cow herd or sheep flock can be used to produce either feeder or slaughter animals, and either can utilize profitably the grass and other roughages produced.

When both roughages and feed grains are available, a deferred feeding system frequently is a profitable way of handling cattle. Under this system, calves or yearlings are purchased in the fall, wintered well, pastured the following summer, and full fed in the feedlot for about 100 days in the fall. If feed grains should not be available, or if the

prospective feeder margin appears too narrow, the cattle could be sold as feeders without putting them in the feedlot. This system requires more operating capital than the cow herd, but it is more flexible and can be developed quickly. Of course, a large scale expansion of this operation would require increased production of feeder calves or yearlings by other farmers.

On smaller wheat farms and on those without stock water, grass also has possibilities. At current prices and with a yield of 100 to 125 pounds of seed per acre, the production and sale of crested wheat grass seed is grossing from \$45 to \$55 an acre. With millions of acres of land likely to be put back to grass, supplies of grass seed probably will continue short for sometime. Another possibility for farmers in the Northern Plains is crested wheat grass or crested wheat grass and alfalfa for the production of hay for sale.

Grass Helps Soils

Sometimes overlooked in our western wheat areas is the value of using the improved grasses in a long-time crop rotation to maintain or increase the productivity of the soils. Experimental evidence indicates that the current system of farming in our semiarid wheat areas is gradually depleting the soils. As the fertility and, especially, the organic matter is lost, the ability of the soils to hold water and to resist erosion is decreased. Although moisture generally is still the chief limiting factor in crop yields in these areas, we apparently have reached the point where nitrogen rather than moisture limits yields of some crops such as grass seed, and of most crops in years of favorable rainfall.

Additional research is needed to determine just how much, and under what conditions, the yield of various crops can be increased by incorporating grass in a long-time crop rotation. But western farmers will do well to consider this factor seriously in determining whether to seed some of their excess wheat acres to grass.

Hugh L. Stewart
Bureau of Agricultural Economics

Colonial Half-Gallon Milk Pail

No Challenge to Modern Cow

IF A COLONIAL American farmer had done a "Rip Van Winkle" and had awakened this year he probably wouldn't be startled at the appearance of the present-day cow. In general, she would resemble the cow he was accustomed to milking, although she would probably be slightly larger and certainly better fed. But, if he milked an average cow of today, the results would no doubt cause his eyes to pop out.

Instead of the one-half gallon bucket that would hold all of the milk an average colonial cow produced in one day, he would need a pail that would hold slightly over 2 gallons. If he milked a cow in some of the present-day commercial herds, he would need at least a 4-gallon container. And if he milked Carnation Ormsby Madcap Fayne, a Holstein with a milking record of 41,943 pounds in 1 year, he would need a good-sized wash tub. After one such milking, no doubt he would have been ready to go back to sleep for another 200 years.

End Not in Sight

Although milk production per cow has increased sharply since colonial days, most of the gain has occurred in the last century. In 1850, production per cow averaged about 2,365 pounds per year. By 1890 it was up to 3,000 pounds. After 1890, introduction of the Babcock test, the expansion of the factory production of butter, cheese, and evaporated milk, particularly in the Middle West, and later the expanded market for milk for fluid consumption encouraged better dairy breeding and feeding practices. By 1909, milk production per cow had stepped up to 3,800 pounds, and in 1949, with the end not even in sight, it had risen to 5,239 pounds. This was $3\frac{1}{2}$ times the milk given by the average colonial cow.

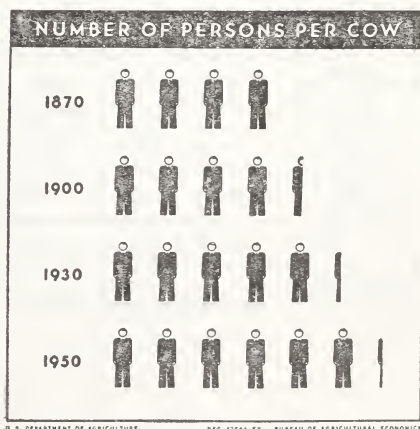
It is impossible to say which has had the most influence on raising milk production per cow—better breeding or

better feeding. Purebred milk cows have been imported since 1795. In the last half century, improved breeding practices have been widely adopted. More recently, artificial insemination has helped raise the potential milk producing capacity of dairy cows. Increased knowledge of animal nutrition, better management practices, and heavy feeding of concentrates have made it possible to utilize that capacity.

Steady Gain in Numbers

Along with the increase in production per cow, the number of milk cows has moved steadily upward, despite cyclical "ups and downs." From 1850 to 1944, when the peak of 25,775,000 head was reached, the number of milk cows on American farms practically quadrupled. But population has increased at a faster rate and today one cow is supplying the milk requirements of almost twice as many people as in 1850.

Of the many changes in the dairy industry, particularly in recent years, probably the most significant have been in milk utilization. From colonial times until 1850, the dairy industry was built largely around milk production for home use. Any surplus went chiefly into home-made butter and cheese for



sale to nearby neighbors or exchange at the local trading post, later the country store. In recent years, farm use, either for fluid consumption, feed for livestock or for farm-made butter, is taking an increasingly smaller proportion of the total milk production. The proportion used for commercially manufactured dairy products—such as butter, cheese, evaporated milk, dry milk, and ice cream is increasing slightly; while the proportion used for fluid milk and cream consumption has expanded sharply. These changes are leading farmers to market more of their milk as whole milk and less in the form of cream.

Recent Changes Significant

From a marketing standpoint, the changes of the past 25 years are perhaps the most significant of any in the industry's history. In 1924, milk production on farms and in towns totaled 93,660,000,000 pounds. Manufacture of dairy products took 41.9 percent; fluid milk and cream consumption in cities and villages, 29.9 percent; and the other 28.2 percent was used on the farm where produced. In 1949, milk production totaled 121,962,000,000 pounds. The production of manufactured dairy products used 45.2 percent of that pro-

duction; fluid milk consumption 36.9 percent, and farm use 17.9 percent.






Although the proportion of milk production used for manufactured dairy products increased slightly between 1924 and 1949, the changes by products varied sharply. Products requiring both fat and nonfat solids of milk practically doubled. Skim milk products increased four times. But use of milk for butter dropped from almost one-third of the total production in 1924 to less than one-fourth in 1949. The milk equivalent of the creamery butter produced in 1949 was about three-fourths of a billion pounds less than in 1924. Butter is the only major product whose production requires less milk than in 1924.

Increased use of fluid milk and cream and products made from whole and skim milk has resulted from increased knowledge of their nutritional value. The emphasis on the need of increasing the consumption of milk and milk products for both protective and nutritional purposes began to bear fruit after World War I. Young people of today no longer switch from milk to other drinks early in their "teens," but are continuing to consume as much, and in some cases more, milk than they did while young. In most cases, they probably will continue to be heavy milk consumers after they are adults.

Consumption Gain Likely

Although consumption of fluid milk per person has dropped some since the end of World War II, consumption probably will increase beyond the 1945 peak in the next 15 or 20 years. Per capita consumption of manufactured dairy products also is likely to reach new peaks in the years ahead. Some recovery is anticipated in the per capita consumption of butter, but whether it will ever again reach pre-war levels, is a question that only the future can answer.

Benjamin H. Bennett
Bureau of Agricultural Economics

CONSUMPTION OF DAIRY PRODUCTS			
PRODUCT	POUNDS PER PERSON		
	1925-39 AV.	1935-39 AV.	1949
 CHEESE	4.5	5.5	7.2
 BUTTER	17.8	16.7	10.6
 ICE CREAM	9.4	9.5	16.3
 EVAP. MILK	9.8	15.0	17.7
 FLUID MILK AND CREAM	348	340	382

U. S. DEPARTMENT OF AGRICULTURE

DCI. 47861-24 BUREAU OF AGRICULTURAL ECONOMICS

Outlook Highlights

... MAY 1950

Repeat Performance Likely

Changes in the 1950 price-cost-income pattern for agriculture are likely to be much the same as in 1949, according to a recent review of the outlook.

For all of 1950, prices farmers receive are expected to average a little less than a tenth below 1949. Costs will remain fairly stable, weakening only slightly. The combined effects of falling prices and rigid costs will again mean a sharp drop in the net income of farm operators; probably about as much as last year. This would leave net income about a third below the peak reached in 1947.

Prices Below Year Earlier

Some of the price decline expected for 1950 already has occurred.

In the first 4 months, the index of prices received by farmers averaged about 9 percent below the same period of last year and about 5 percent under the level for all of 1949. With support programs in effect for many commodities, prices of crops generally have stayed close to last year's average. Sharpest declines have occurred in livestock items.

The quantity of crops marketed this year is likely to be down substantially from 1949 mainly because of acreage allotments for some crops. If the weather is normal this year, however, supplies are likely to be large enough to result in further declines in crop prices in the second half of 1949.

Further price reductions in livestock products also are likely because of increased marketings of hogs and cattle expected later in 1950.

Another Drop in Receipts

Smaller production of most crops and the price declines expected for livestock products is expected to reduce farmers' cash receipts about 9 percent below 1949. Assuming normal weather, largest reductions in receipts among the crops are expected for cotton and cottonseed and corn, largely because of

reduced output resulting from acreage allotment programs. Shifts to other crops may offset part of this loss.

Little Cost Relief

The likelihood of only minor declines in farmers' production costs means that most of the reduction in gross income will show up in net income.

The slight decline in total costs probably will come from lower expenditures for labor, fertilizer, and rents. Wage rates for the year are expected to average below 1949 and farmers probably will employ fewer workers. Farmers may buy less fertilizer and prices are down slightly.

Most other costs are expected to be as high or higher than last year. Livestock purchased by farmers are expected to cost a little more than in 1949. They will spend about the same amount for purchased feed. Maintenance and depreciation charges will be up a little. Fuel and repairs also will be up. Tax and mortgage-interest payments will rise. Miscellaneous cost items such as seeds, containers, twine, irrigation charges, dairy supplies, short-term interest, hardware and the like will be about the same.

Nonfarm Activity High

Outside of agriculture, economic activity has continued at high levels.

Output of automobiles and other durable goods has been increasing. Production of nondurables is near the postwar peak. Construction, sparked by an upsurge in home building, has been at a record pace. Employment continues at high levels. Consumer income, boosted by the veterans' insurance refund, has been supporting consumer buying at a near record rate.

There are indications, however, that the rate of economic activity may fall off some later in the year. Most of the veterans' insurance refunds will be paid by midyear and much of it will be spent before the end of the year. Business is expected to continue to reduce spending for new plant and equipment. Exports are likely to decline as our foreign

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. A average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		Apr. 15, 1949	Mar. 15, 1950	Apr. 15, 1950	Effective parity prices Apr. 15, 1950 ²
	Base period price 1910-14 ¹	January 1935- Decem- ber 1939				
Basic commodities:						
Cotton (pound).....cents.	³ 12.4	10.34	29.91	28.05	28.74	30.26
Wheat (bushel).....dollars.	³ .884	.837	2.00	1.98	2.01	2.16
Rice (bushel).....do.	.891	.742	⁴ 2.17	1.93	1.93	2.24
Corn (bushel).....do.	³ .642	.691	1.22	1.19	1.26	1.57
Peanuts (pound).....cents.	³ 4.8	3.55	10.6	10.5	10.6	11.7
Designated nonbasic commodities:						
Potatoes (pound).....dollars.	³ 1.12	.717	⁴ 1.76	1.32	1.34	⁶ 1.70
Butterfat (pound).....cents.	27.7	29.1	61.4	62.4	61.0	69.5
Milk, wholesale (100 lb.).....dollars.	1.73	1.81	3.74	3.81	⁷ 3.60	4.34
Wool (pound).....cents.	20.1	23.8	51.3	49.6	50.4	50.5
Other nonbasic commodities:						
Barley (bushel).....dollars.	³ .619	.533	1.00	1.10	1.11	⁶ 1.43
Cottonseed (ton).....do.	26.30	27.52	⁸ 50.30	43.00	⁸ 44.40	66.00
Flaxseed (bushel).....do.	1.71	1.69	⁴ 5.44	3.56	3.53	4.29
Oats (bushel).....do.	³ .399	.340	.698	.723	.749	⁶ .925
Rye (bushel).....do.	³ .720	.554	1.18	1.21	1.20	⁶ 1.67
Sorghum, grain (100 lb.).....do.	³ 1.21	1.17	2.18	1.93	1.98	⁶ 2.80
Soybeans (bushel).....do.	1.00	.954	2.08	2.25	2.48	2.51
Sweetpotatoes (bushel).....do.	.921	.807	2.75	2.22	2.28	2.31
Beef cattle (100 lb.).....do.	6.78	6.56	⁴ 21.00	21.00	21.80	17.00
Chickens (pound).....cents.	11.4	14.9	31.0	23.8	23.3	28.6
Eggs (dozen).....do.	³ 21.5	21.7	42.3	31.6	30.8	⁶ 49.9
Hogs (100 lb.).....dollars.	7.52	8.38	⁴ 18.30	16.10	15.60	18.90
Lambs (100 lb.).....do.	7.48	7.79	25.80	23.70	23.80	18.80
Veal calves (100 lb.).....do.	7.62	7.80	⁴ 24.40	24.40	24.60	19.10
Oranges, on tree (box).....do.	³ 2.29	1.11	1.92	2.69	2.30	⁶ 3.48
Apples (bushel).....do.	1.04	.90	⁴ 3.05	1.92	2.10	2.61
Hay, baled (ton).....do.	8.71	11.20	23.80	21.20	21.40	21.90

¹ Adjusted base period prices 1910-14, based on 120-month average January 1940-December 1949 unless otherwise noted.

² Parity prices are computed under the provisions of title III, subtitle A, section 301 (a) of the Agricultural Adjustment Act of 1938 as amended by the Agricultural Acts of 1948 and 1949.

³ 60-month average, August 1909-July 1914. ⁴ Revised. ⁵ 10-season average 1919-28.

⁶ Transitional parity, 95 percent of parity price computed under formula in use prior to Jan. 1, 1950.

⁷ Preliminary.

⁸ Relatively insignificant quantities sold for crushing this month.

aid diminishes and other countries compete more vigorously for the export market.

No Support for Poultry

Prices of chickens and turkeys will not be supported by a government program this year, the U. S. Department of Agriculture announced recently.

Under the Agricultural Act of 1949, price support for chickens and turkeys is not mandatory. From 1942 until this year, the Department was obligated to support prices of chickens, excluding commercial broilers, and turkeys at varying levels. However, it was necessary to carry out purchase programs for these commodities on only a few occasions.

Smaller Gain in Wheat Stocks

This year's wheat crop probably will add less to stocks than in either of the last 2 years, though production will ex-

ceed the amount used in the United States plus exports.

The winter wheat crop on April 1 was estimated at 764 million bushels. No estimate of spring wheat has been made, but if farmers plant the acreage they intended last March and yields are average, 300 million bushels would be produced. This would make the total crop 1,064 million. With a carry-over of about 450 million expected next July 1, total supplies for 1950-51 would be 1,514 million bushels.

If domestic use in 1950-51 totals 700 million bushels and exports 300 million, carry-over on July 1, 1951 would be around 500 million bushels compared with the peak of 631 million for 1942.

Cotton Consumption Up

Domestic mills have been using cotton at a higher rate this season than in 1948-49. Total consumption for 1949-

(Continued on p. 16)

Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39=100) ¹	Total income of industrial workers (1935-39=100) ²	Average earnings of factory workers per worker (1910-14=100)	Whole-sale prices of all commodities (1910-14=100) ³	Index numbers of prices paid by farmers (1910-14=100) ⁴			Index numbers of prices received by farmers (1910-14=100) ⁴			
					Com-modities	Wage rates for hired farm labor ⁵	Com-modities, interest, taxes, and wage rates	Livestock and products			
								Dairy products	Poul-try and eggs	Meat ani-mals	All live-stock
1910-14 average.....	58	50	100	100	100	100	100	100	100	100	100
1915-19 average.....	72	80	152	158	149	147	148	147	153	162	157
1920-24 average.....	75	122	221	160	159	181	168	159	163	121	140
1925-29 average.....	98	129	232	143	151	184	161	161	155	145	152
1930-34 average.....	74	78	179	107	117	121	124	105	94	83	91
1935-39 average.....	100	100	199	118	124	121	125	119	108	117	115
1940-44 average.....	192	236	315	139	148	211	152	169	145	166	162
1945 average.....	203	291	389	154	180	359	189	230	194	207	210
1946 average.....	170	276	382	177	197	387	207	267	197	248	241
1947 average.....	187	328	436	222	231	419	240	272	219	329	287
1948 average.....	192	354	472	241	250	442	259	300	235	361	314
1949 average.....	176	325	478	226	241	429	250	251	219	311	272
1949											
April.....	179	327	469	229	244	430	254	241	220	324	276
May.....	174	322	472	227	244	-----	253	235	215	319	271
June.....	169	320	475	226	242	-----	252	233	212	323	271
July.....	161	315	476	224	240	429	250	237	213	316	269
August.....	170	323	477	223	238	-----	249	244	225	310	271
September.....	174	331	485	224	238	-----	248	251	236	319	279
October.....	166	307	480	222	237	414	245	258	230	301	271
November.....	173	313	474	221	236	-----	245	261	216	286	262
December.....	179	323	490	221	237	-----	246	261	194	280	255
1950											
January.....	183	322	491	221	238	429	249	254	158	285	249
February.....	180	-----	-----	223	237	-----	248	250	155	306	257
March.....	-----	-----	-----	223	239	-----	250	243	165	308	258
April.....	-----	-----	-----	-----	240	427	251	235	161	312	256

Year and month	Index numbers of prices received by farmers (1910-14=100) ⁴								Parity ratio ⁶	
	Crops							All crops and live-stock		
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil-bearing crops	Fruit	Truck crops			All crops
1910-14 average.....	100	100	100	100	100	100	-----	100	100	100
1915-19 average.....	193	161	183	175	201	126		171	164	111
1920-24 average.....	147	125	189	197	155	157	¹ 52	162	150	89
1925-29 average.....	141	118	169	150	135	146	145	143	148	92
1930-34 average.....	70	76	117	77	78	98	104	84	88	71
1935-39 average.....	94	95	172	87	113	95	95	99	107	86
1940-44 average.....	123	119	241	138	170	150	164	145	154	101
1945 average.....	172	161	360	178	228	244	207	203	206	109
1946 average.....	201	196	376	237	260	250	182	227	234	113
1947 average.....	270	249	374	272	363	212	226	263	275	115
1948 average.....	250	250	380	270	351	174	214	252	285	110
1949 average.....	219	170	398	245	242	199	201	223	249	100
1949										
April.....	229	177	403	251	256	225	196	234	256	101
May.....	229	174	403	252	245	239	194	235	253	100
June.....	213	168	404	253	232	235	155	225	249	99
July.....	209	171	404	253	219	217	168	221	246	98
August.....	205	165	400	246	241	181	170	214	244	98
September.....	211	166	393	250	227	160	188	212	247	100
October.....	213	161	396	241	221	180	174	210	242	98
November.....	215	157	369	233	220	172	213	210	237	97
December.....	219	168	394	223	225	174	196	210	233	95
1950										
January.....	218	170	382	222	228	185	261	219	235	94
February.....	219	171	389	231	228	186	203	215	237	96
March.....	224	174	389	236	230	193	168	215	237	95
April.....	227	181	389	242	239	206	205	225	241	96

¹ Federal Reserve Board: represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

² Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on pay rolls in mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised January 1950. ³ Bureau of Labor Statistics.

⁴ Revised January 1950. ⁵ Farm wage rates simple averages of quarterly data, seasonally adjusted.

⁶ Revised. ⁷ Preliminary.

⁸ Ratio of index of prices received to index of prices paid, interest, taxes, and wage rates. This parity ratio will not necessarily be identical to a weighted average percent of parity for all farm products, largely because parity prices for some products are on a transitional basis. ⁹ 1924 only.

Outlook Highlights

(Continued from page 14)

50 is expected to be around 8.5 million bales compared with 7.8 million bales the previous season. Exports also are running higher and probably will total 5½ million bales compared with 4¾ million in 1948-49.

Stocks carried over into the 1950-51 season, which begins August 1, are expected to be around 7½ million bales. About two-thirds will be in CCC stocks. The carry-over of low-grade cotton is expected to be relatively small.

Cotton Cloth Exports Drop

The United States appears to be losing the unusual position of largest exporter of cotton textiles in the world that it has held since just after the war.

In 1947, we exported nearly 1½ billion square yards of cotton cloth, about 15 percent of domestic production and an all-time peak. In 1948 shipments abroad dropped to 940 million square yards and in 1949 to 880.2 million.

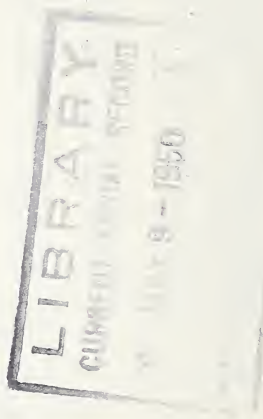
Chief reason for the decline in our exports is recovery from war damage to the textile industries of Europe and Japan.

More Acres in Feed Grains

Farmers are putting a larger acreage into the four principal feed grains than in 1949, their planting intentions indicate. Though they intended to reduce corn acreage 6 percent, they reported they planned to boost oats 8 percent and both barley and sorghum 24 percent. The acreage in hay would be upped 3 percent.

If the intended acreages are actually planted and yields are average, the feed grain supply for 1950-51 in relation to the number of livestock expected to be fed would be smaller than in either of the last two seasons but a tenth above prewar.

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